

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

CONSTRUCTION/TITLE V OPERATION NO. V-99-038

ISP INCORPORATED

CALVERT CITY, KY.

MAY 11, 2000

THOMAS ADAMS, REVIEWER

PLANT I.D. # 072-2600-0003

APPLICATION LOG #F70

SOURCE DESCRIPTION:

ISP Chemicals is a large Synthetic Organic Chemical plant that makes a wide variety of intermediates and specialty chemicals.

COMMENTS:

Applicable Regulations: The source is major for Title V (NO_x, CO, SO₂, VOC and HAPs). They are constructing a new "pilot" plant with this permit that requires federally enforceable restrictions to preclude 401 KAR 57:017. This permit is being issued as a combined Construction/Title V permit.

The source is subject to the following regulations:

40 CFR 63 Subpart F. *National emission standards for organic hazardous air pollutants from the synthetic organic chemical manufacturing industry.*

40 CFR 63 Subpart G. *National emission standards for organic hazardous air pollutants from the synthetic organic chemical manufacturing industry for process vents, storage vessels, transfer operations, and wastewater.*

40 CFR 63 Subpart H. *National emission standards for organic hazardous air pollutants for equipment leaks.*

40 CFR 61 Subpart J. *National Emission Standard for Equipment Leaks (Fugitive Emission sources) of Benzene.*

40 CFR 61 Subpart V. *National Emission Standard for Equipment Leaks (Fugitive Emission Sources.)*

40 CFR 61 Subpart Y. *National Emission Standard for Benzene Emissions from Benzene Storage Vessels.*

40 CFR 61 Subpart FF. *National Emission Standard for Benzene Waste Operations.*

40 CFR 60 Subpart Kb. *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.*

40 CFR 60 Subpart Dc. *Standards of performance for small industrial-commercial-institutional steam generating units that commences construction, modification, or reconstruction after June 9, 1989.*

401 KAR 59:010. *New Process Operations* constructed after July 2, 1975.

401 KAR 61:020. *Existing Process Operations* constructed prior to July 2, 1975.

401 KAR 59:015. *New Indirect Heat Exchanger* constructed after April 9, 1972.

401 KAR 61:015. *Existing Indirect Heat Exchangers* constructed prior to April 9, 1972.

SECTION J of this permit covers nonapplicable requirements and regulations.

SECTION K contains a list of equipment, description and date of construction covered by the permit.

Emission Factors: Emission factors are based on historical testing, mass balances and AP-42. The source has submitted calculations for VOC/HAP emissions based on actual production in the “Plantware” software data system. The review is based upon the highest emissions (worst case) of all products produced.

EMISSION AND OPERATING CAPS DESCRIPTION:

ISP is constantly modifying and changing product formulas to meet market forces. To assure maximum flexibility to make small changes that do not significantly affect Ambient Air Quality, ISP has submitted a “Worst Case” analysis of its operating capacity, presenting the worst VOC and worst HAP emissions from all known products.

The Gateway project included in this permit is a new construction that requires limits on production and the installation of controls to avoid the applicability of PSD.

The 324/3314 Low Pressure B3D Reactor is required to maintain records of hours vented to the control device (flare).

PERIODIC MONITORING:

PM/PM10 controls include a cyclone, baghouses, scrubbers. Periodic monitoring consists of routine maintenance, monitoring of pressure drops, and periodic visual observations.

The source has a thermal oxidizer to control emissions of benzene to meet the requirements of 40 CFR 61 Subpart V. Periodic monitoring is not well defined in the regulation, so a PM plan that contains averaging periods and monitoring parameters is outlined in the permit. The permittee performs continuous monitoring of the combustion temperature to ensure a greater than 95% destruction averaged on a daily basis.

The source also has flares and thermal oxidizers to preclude applicability of PSD. For the Flare, Periodic Monitoring consists of daily visual observation and quarterly VE monitoring. For the thermal oxidizer, continuous records of combustion temperature are maintained, along with records of periodic maintenance.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.